**CASE-MIX CLASSIFICATION WORKBOOK
WEST VIRGINIA DEPARTMENT OF
HEALTH AND HUMAN RESOURCES
BUREAU FOR MEDICAL SERVICES**

**STEP-BY-STEP PROCEDURES FOR
MANUALLY DETERMINING A RESIDENT'S CASE-MIX
CLASS
USING THE MDS 3.0 ASSESSMENT**

October 1, 2010 (Updated for MDS 3.0 Version 1.0)

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I. HOW TO USE THE CASE-MIX CLASSIFICATION WORKBOOK

- This workbook is designed to allow facilities to manually determine a resident's case-mix class using the MDS 3.0 assessment form. Location of each item on the MDS 3.0 is given in parentheses.

II. OVERVIEW OF THE CASE-MIX CLASSIFICATION WORKBOOK

Below is a brief overview of the steps required to determine a resident's case-mix class using the MDS 3.0 assessment form:

STEP 1: Calculate the Activities of Daily Living (ADL) Index Score for each resident:

The ADL Index Score is calculated from responses in the self-performance and support provided columns of Section G of the MDS 3.0. The ADL categories used to calculate the index score are Bed Mobility, Transfer, Toileting and Eating.

STEP 2: Place each resident into a RUG III Hierarchical Group and Case-Mix Class:

Based on clinical factors reported on the MDS 3.0, each resident is placed in one of nine RUG III Hierarchical Groups. These groups are ordered from highest to lowest as follows:

    I.   High Intensity Rehabilitation
    II.   Medium Intensity Rehabilitation
    III.   Low Intensity Rehabilitation
    IV.   Extensive Care
    V.   Special Care
    VI.   Clinically Complex
    VII. Impaired Cognition
    VIII. Challenging Behaviors
    IX.   Reduced Physical Functioning

Residents begin at Group I and are checked for inclusion in each successive Hierarchical Group. Within each group residents are placed in one of 29 case-mix classes based on their ADL Index Score (calculated in Step 1). A complete listing of the 9 Hierarchical Groups and the 29 case-mix classes can be found in Appendix A. **NOTE: RESIDENTS MAY QUALIFY FOR ONLY ONE HIERARCHICAL GROUP AND ONE CASE-MIX CLASS WITHIN THAT GROUP.**

Class assignment for the Extensive Care Hierarchical Group is based on clinical treatments received rather than ADL Index Score.

All references to Sections and numbers of the MDS 3.0 must be documented on the MDS 3.0 Quarterly Assessment Form.

STEP 1:   CALCULATE THE ADL INDEX SCORE

To calculate the ADL Index Score, self-performance and support provided responses for Bed Mobility, Transfer, Toileting and Eating in Section G of the MDS 3.0 will be converted into ADL Index Scores by the following procedure:

A. BED MOBILITY ADL SCORE:

Find the Bed Mobility self-performance and support provided responses in Section G0110(A1) and G0110(A2), respectively, of the MDS 3.0 and write them here:

Bed Mobility Self Performance $\underline{\hspace{2cm}}$

Bed Mobility Support Provided $\underline{\hspace{2cm}}$

This step converts these responses to an ADL score based on <u>one</u> of the following statements:

If the self-performance response is 8, the support provided
   response must be 8, mark "1" on this line. $\underline{\hspace{2cm}}$

If the self-performance response is 0, 1, or 7, mark "1" on this
   line. $\underline{\hspace{2cm}}$

If the self-performance response is 2, mark "3" on this line. $\underline{\hspace{2cm}}$

If the self-performance is 3 or 4 AND the support provided
   response is 0, 1 or 2, mark "4" on this line. $\underline{\hspace{2cm}}$

If the self-performance is 3 or 4 AND the support provided
   response is 3, mark "5" on this line. $\underline{\hspace{2cm}}$

Transfer the **ONE** number written on the above five lines to Line A.
   This is the resident's **BED MOBILITY ADL SCORE**.   **(Line A)** $\underline{\hspace{2cm}}$

B. TRANSFER ADL SCORE

Find the Transfer self-performance and support provided responses in Section G0110(B1) and G0110(B2), respectively, of the MDS 3.0 and write them here:

Transfer Self-Performance   _____

Transfer Support Provided   _____

This step converts these responses to an ADL score based on <u>one</u> of the following statements:

If the self-performance response is 8, the support provided response
 must be 8, mark "1" on this line.   _____

If the self-performance response is 0, 1, or 7, mark "1" on this line. _____

If the self-performance response is 2, mark "3" on this line. _____

If the self-performance response is 3 or 4, AND the support provided
 response is 0, 1 or 2, mark "4" on this line.   _____

If the self-performance response is 3 or 4, AND the support provided
 response is 3, mark "5" on this line.   _____

Transfer the **ONE** number written on the above five lines to Line B.
 This is the resident's **<u>TRANSFER ADL SCORE</u>**.   **(Line B)** _____

C. TOILETING ADL SCORE

Find the Toileting self-performance and support provided responses in Section G0110(I1) and G0110(I2), respectively, of the MDS 3.0 and write them here:

Toileting Self-Performance   _____

Toileting Support Provided   _____

This step converts these responses to an ADL score based on <u>one</u> of the following statements:

If the self-performance response is 8, the support provided response
 must be 8, mark "1" on this line.   _____

If the self-performance response is 0, 1, or 7, mark "1" on this line. _____

If the self-performance response is 2, mark "3" on this line. _____

If the self-performance response is 3 or 4, AND the support provided
 response is 0, 1 or 2, mark "4" on this line.   _____

If the self-performance response is 3 or 4, AND the support provided
 response is 3, mark "5" on this line.   _____

Transfer the **ONE** number written on the above five lines to Line C.
 This is the resident's **<u>TOILETING ADL SCORE</u>**.   **(Line C)** _____

D. EATING ADL SCORE

Find the Eating self-performance response in Section G0110(H1) of the MDS 3.0 and write it below. Also determine if the resident receives Parenteral/IV Feeding or Feeding Tube by looking at responses to K0500(A) and K0500(B) on the MDS 3.0.

       Eating Self-Performance   _____

This step converts this response to an ADL score based on <u>one</u> of the following statements:

       If the self-performance response is 0, 1, 7, or 8, and K0500(A) and
         K0500(B) are <u>NOT</u> checked, mark "1" on this line.   _____

       If the self-performance response is 2, and K0500(A) and K0500(B) are
         <u>NOT</u> checked, mark "2" on this line.   _____

       If the self-performance response is 3 or 4, and K0500(A) and
         K0500(B) are <u>NOT</u> checked, mark "3" on this line.   _____

       If the self-performance response is 0, 1, 2, 3, 4, 7 or 8 and K0500(A) or
         K0500(B) is checked, mark "3" on this line.   _____

       Transfer the **ONE** number written on the above four lines to Line D.
         This is the resident's **<u>EATING ADL SCORE</u>**.   **(Line D)**_____

E. ADL INDEX SCORE

From Steps A-D above, write the ADL scores as follows:

       Bed Mobility ADL Score (Line A)   _____

       Transfer ADL Score (Line B)   _____

       Toileting ADL Score (Line C)   _____

       Eating ADL Score (Line D)   _____

       Sum these four lines (Lines A-D) to get the resident's **<u>ADL INDEX
         SCORE</u>**   _____

This ADL Index Score will be used in Step 2 to determine a resident's case-mix class within a hierarchical group.

STEP 2: DETERMINE THE RESIDENT'S RUG III HIERARCHICAL GROUP AND CASE-MIX CLASS

The next step after calculating the ADL Index Score is to determine the resident's Hierarchical Group and Case-Mix Class.

Each resident is placed into **<u>ONLY ONE</u>** of West Virginia's 29 case-mix classes. The classes are ordered from heavy care (e.g., Class 1 or 10) to light care (e.g., Class 29). Residents are placed into the highest class for which they qualify. (**<u>AS SOON AS A RESIDENT IS PLACED IN A CLASS, STOP</u>**).

Before proceeding to the following hierarchical groups, identify if the MDS 3.0 identifies the presence of Parenteral/IV Feeding (K0500(A)), Suctioning (O0100(D1)/O0100(D2)) <u>AND</u> Tracheostomy Care (O0100(E1)/O0100(E2)). If these three conditions are present and the ADL score is equal to or greater than 7, go directly to Special Care Group, IV, Extensive Care Classes. If all three conditions are applicable, the case-mix class is Class 10 (Extensive Special Care 3). **STOP**.

<u>REHABILITATION GROUP</u>

On the MDS 3.0, Section O0400, enter the total number of minutes of rehabilitation therapy a resident receives individually, concurrently and as part of a group in the last 7 days. Enter the total number of days of rehabilitation therapy a resident receives in the last 7 days. Rehabilitation therapy includes speech-language pathology, occupational and physical therapy.

Sum down columns A and B to determine the total number of days and the total number of minutes the resident received therapy.

	Column A **Therapy** **<u>Days</u>**	**Column B** **Therapy** **<u>Minutes</u>**
Speech-Language	O0400(A4)	Sum of O0400(A1), O0400(A2),O0400(A3)
Occupational Therapy	O0400(B4)	Sum of O0400(B1), O0400(B2),O0400(B3)
Physical Therapy	O0400(C4)	Sum of O0400(C1), O0400(C2),O0400(C3)
TOTAL		

I.   HIGH INTENSITY REHABILITATION CLASSES

Based on the previous calculations, check if the following three statements are true:

1. Total therapy minutes are 300 or more   _____

2. The resident received at least <u>ONE</u> type of therapy for <u>5 or more days</u>, (i.e. S-TOTAL OR O-TOTAL OR P-TOTAL is 5 or 6 or 7)   _____

3. The resident received at least 2 of the 3 therapy types (regardless of the number of days or number of minutes it was received)   _____

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 15-18, the resident is in case-mix **Class 1 (High Intensity Rehabilitation D)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 12-14, the resident is in case-mix **Class 2 (High Intensity Rehabilitation C)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 8-11, the resident is in case-mix **Class 3 (High Intensity Rehabilitation B)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 4-7, the resident is in case-mix **Class 4 (High Intensity Rehabilitation A)**.

<u>IF THE RESIDENT IS PLACED IN **ONE** OF THE ABOVE CLASSES 1-4, **STOP**. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION II.</u>

II.   MEDIUM INTENSITY REHABILITATION CLASSES

Based on the previous calculations, check if the following two statements are true:

1. Total therapy minutes are 150 or more   _____

2. The resident's total days of therapy received (from total of O0400(A4), O0400(B4), and O0400(C4)) is 5 or more   _____

If **BOTH** of the above statements are true and the resident's ADL Index Score is 16-18, the resident is in case-mix **Class 5 (Medium Intensity Rehabilitation C)**.

If **BOTH** of the above statements are true and the resident's ADL Index Score is 8-15, the resident is in case-mix **Class 6 (Medium Intensity Rehabilitation B)**.

If **BOTH** of the above statements are true and the resident's ADL Index Score is 4-7, the resident is in case-mix **Class 7 (Medium Intensity Rehabilitation A)**.

<u>IF THE RESIDENT IS PLACED IN **ONE** OF THE ABOVE CLASSES 5-7, **STOP**. IF THE RESIDENT WAS NOT PLACED CONTINUE TO SECTION III.</u>

III. LOW INTENSITY REHABILITATION CLASSES

Based on the previous calculations, check if any of the following are true:

1. Total therapy minutes are 45 or more   _____

2. The resident's total days of therapy received (from total of O0400(A4), O0400(B4), and O0400(C4)) is 3 or more   _____

3. Any TWO of the following nursing rehabilitation activities is coded 5, 6 or 7 on the MDS 3.0, Section O0500. Check which activities are coded 5, 6 or 7   _____

    Range of Motion (Passive) (O0500(A))   _____
    Range of Motion (Active) (O0500(B))   _____
    Splint or Brace Assistance (O0500(C))   _____
    Training in Bed Mobility (O0500(D))   _____
    Training in Transfer (O0500(E))   _____
    Training in Walking (O0500(F))   _____
    Training in Dressing and/or Grooming (O0500(G))   _____
    Training in Eating and/or Swallowing (O0500(H))   _____
    Training in Amputation/Prostheses Care (O0500(I))   _____
    Training in Communication (O0500(J))   _____

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 12-18, the resident is in case-mix **Class 8 (Low Intensity Rehabilitation B)**.

If **ALL 3** of the above statements are true and the resident's ADL Index Score is 4-11, the resident is in case-mix **Class 9 (Low Intensity Rehabilitation A)**.

IF THE RESIDENT IS PLACED IN **ONE** OF THE ABOVE CLASSES 8-9, **STOP**. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION IV.

SPECIAL CARE GROUP

IV. EXTENSIVE CARE CLASSES

To qualify for this group, residents must have an ADL Index Score of 7 or more. If a resident receives any of the following 3 treatments or exhibits any of the 10 conditions listed under V. SPECIAL CARE CLASSES but has an ADL Index Score of less than 7, **STOP**. **SKIP** this section and go to VI. CLINICALLY COMPLEX.

On the MDS 3.0, determine if the following items are checked, indicating that the resident receives any or all of the following 3 treatments.

1. Parenteral/IV Feeding (K0500(A))   _____

2. Suctioning (O0100(D1) or O0100(D2))   _____

3. Tracheostomy Care (O0100(E1) or O0100(E2))   _____

If the resident received **ALL 3** of the above treatments and has an ADL Index Score of 7 or more, the resident is in case-mix **Class 10 (Extensive Special Care 3)**.

If the resident received **ANY 2** of the above treatments and has an ADL Index Score of 7 or more, the resident is in case-mix **Class 11 (Extensive Special Care 2)**.

If the resident received **ANY 1** of the above treatments and has an ADL Index Score of 7 or more, the resident is in case-mix **Class 12 (Extensive Special Care 1)**.

IF THE RESIDENT IS PLACED IN **ONE** OF THE ABOVE CLASSES 10-12, **STOP**. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION V.

V.   SPECIAL CARE CLASSES

On the MDS 3.0, determine if any of the following items are checked, indicating that the resident exhibits one or more of the following 10 conditions:

1. Second or third degree burns (M1040(F))   _____

2. Coma (B0100)   _____

3. Fever (J1550(A)), combined with any or all of the following: vomiting (J1550(B)), or weight loss (K0300), or pneumonia (I2000), or dehydration (J1550(C))   _____

4. Multiple sclerosis (MS) (I5200)   _____

5. Pressure ulcers at stage 3 or 4 M0300(C1) or M0300(D1) OR the following three unstageable ulcers, if present, M0300(E1) or M0300(F1) or M0300(G1)   _____

6. Quadriplegia (I5100)   _____

7. Septicemia (I2100)   _____

8. IV Medications (O0100(H1) or O0100(H2))   _____

9. Radiation (O0100(B1) or O0100(B2))   _____

10. Feeding Tube (K0500(B))   _____

If the resident has **ANY** of the above 10 conditions and an ADL Index Score of 17-18, the resident is in case-mix **Class 13 (Special Care C)**.

If the resident has **ANY** of the above 10 conditions and an ADL Index Score of 14-16, the resident is in case-mix **Class 14 (Special Care B)**.

If the resident has **ANY** of the above 10 conditions and an ADL Index Score of 7-13, the resident is in case-mix **Class 15 (Special Care A)**.

IF THE RESIDENT IS PLACED IN **ONE** OF THE ABOVE CLASSES 13-15, **STOP**. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION VI.

CLINICALLY COMPLEX GROUP

VI.   CLINICALLY COMPLEX CLASSES

Residents who have any of the conditions or treatments required for the SPECIAL CARE group, but who's ADL Index Score is less than 7, are placed in Clinically Complex Class B or A.

On the MDS 3.0, determine if any of the following items are checked, indicating that the resident exhibits one or more of the following 14 conditions:

1.   Aphasia (I4300)

2.   Cerebral Palsy (I4400)

3.   Hemiplegia or Hemiparesis (I4900)

4.   Pneumonia (I2000)

5.   Venous and arterial ulcer (M1030)

6.   Prognosis (J1400)

7.   Chemotherapy (O0100(A1) or O0100(A2))

8.   Dialysis (O0100(J1) or O0100(J2))

9.   Physician examinations (O0600) (2 or more visits)

10.   Respiratory therapy (O0400(D2)) (5 or more days)

11.   Oxygen therapy (O0100(C1) or O0100(C2))

12.   Open lesions other than ulcers, rashes, cuts (M1040(D)) **and** application of non-surgical dressings (M1200(G))

13.   Surgical wounds (M1040(E)) **and** surgical wound dressing (M1200(F))

14.   Infection of the foot (M1040(A)), or open lesions on the foot (M1040(C)) or diabetic foot ulcer (M1040(B)), **and** application of dressings to feet (M1200(I))

If a resident has **ANY** of the above conditions and an ADL Index Score of 17-18, the resident is in case-mix **Class 16 (Clinically Complex D)**.

If a resident has **ANY** of the above conditions and an ADL Index Score of 11-16, the resident is in case-mix **Class 17 (Clinically Complex C)**.

If a resident has **ANY** of the above 14 conditions OR any of the 3 treatments or 10 conditions listed under <u>SPECIAL CARE</u> and an ADL Index Score of 6-10, the resident is in case-mix **Class 18 (Clinically Complex B)**.

If a resident has **ANY** of the above 14 conditions OR any of the 3 treatments or 10 conditions listed under <u>SPECIAL CARE</u> and an ADL Index Score of 4-5, the resident is in case-mix **Class 19 (Clinically Complex A)**.

<u>IF THE RESIDENT IS PLACED IN **ONE** OF THE ABOVE CLASSES 16-19, **STOP**. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION VII.</u>

<u>IMPAIRED COGNITION AND/OR CHALLENGING BEHAVIOR GROUP</u>

VII.   IMPAIRED COGNITION CLASSES

If a resident has an ADL Index Score above 11, he/she will not qualify for the Impaired Cognition or Challenging Behaviors groups.

<u>If the resident exhibits the characteristics described in this group but has an ADL Index Score greater than 11, **STOP**. **SKIP** this section and go to IX. Reduced Physical Function.</u>

If an individual has all of the following conditions and any of the conditions identified in Section VIII, go to Section VIII and complete the algorithm. If the individual meets the criteria for any of the classes 22 through 24, categorize the individual in the particular case-mix class and **STOP**. If not, return to Section VII. Impaired Cognition Classes and complete the algorithm.

If C0100 = 0 OR C0500 = 99, then answer the 3 questions below. If C0100 = 1, then skip the questions and proceed to Step 2.

Step 1.   On the MDS 3.0, determine if any of the following statements are true, indicating that the resident exhibits one or more of the following characteristics:

1.   Cognitive skills for daily decision making (C1000) is coded 1, 2
       or 3   _____

2.   One or more memory/recall items (C0900(A-D)) are not
       checked, or "NONE OF ABOVE" (C0900(Z)) is checked   _____

3.   Short-term memory (C0700) is coded "1" indicating memory
       problems   _____

Step 2.   If **ALL 3** of the above conditions are true, and the ADL Index Score is 6-11, the resident is in case-mix **Class 20 (Impaired Cognition B)**. If the C0500 memory score is 0-12 and the ADL Index Score is 6-11, the resident is in case-mix **Class 20 (Impaired Cognition B)**

If **ALL 3** of the above conditions are true, and the ADL Index Score is 4-5, the resident is in case-mix **Class 21 (Impaired Cognition A)**. If the C0500 memory score is 0-12 and the ADL Index Score is 4-5, the resident is in case-mix **Class 21 (Impaired Cognition A)**.

<u>IF THE RESIDENT IS PLACED IN **ONE** OF THE ABOVE CLASSES 20-21, **STOP**. IF THE RESIDENT WAS NOT PLACED, CONTINUE TO SECTION VIII.</u>

VIII. CHALLENGING BEHAVIOR CLASSES

From the MDS 3.0, Section E, record the numerical value for each of the five behaviors:

1. Wandering

_____
E0900

2. Verbally Abusive

_____
E0200(B)

3. Physically Abusive

_____
E0200(A)

4. Socially Inappropriate

_____
E0200(C)

5. Rejection of care

_____
E0800

If **ANY** of the above 5 characteristics are coded 1, 2 or 3 and Section S2040 is coded 0 or 1 and the ADL Index Score is 6-11, the resident is in case-mix **Class 22 (Challenging Behavior B)**.

If **ANY** of the above 5 characteristics are coded 1, 2 or 3 and Section S2040 is coded 0 or 1 and the ADL Index Score is 4-5, the resident is in case-mix **Class 23 (Challenging Behavior A)**.

If **ANY** of the above 5 characteristics are coded 2 or 3 and Section S2040 is coded 2 or 3, the resident is in **Class 24 (Atypically Severe Challenging Behaviors)**.

REDUCED PHYSICAL FUNCTION GROUP

IX. REDUCED PHYSICAL FUNCTION CLASSES

All residents that have not been placed in another case-mix class are placed in the case-mix class REDUCED PHYSICAL FUNCTION.

Also, residents who exhibit characteristics described in the IMPAIRED COGNITION or CHALLENGING BEHAVIOR groups but have an ADL Index Score greater than 11 are placed in Reduced Physical Function classes based on their ADL Index Score.

If the ADL Index Score is 16-18, the resident is in case-mix **Class 25 (Reduced Physical Function E)**.

If the ADL Index Score is 11-15, the resident is in case-mix **Class 26 (Reduced Physical Function D)**.

If the ADL Index Score is 9-10, the resident is in case-mix **Class 27 (Reduced Physical Function C)**.

If the ADL Index Score is 6-8, the resident is in case-mix **Class 28 (Reduced Physical Function B)**.

If the ADL Index Score is 4-5, the resident is in case-mix **Class 29 (Reduced Physical Function A)**.

<u>ALL RESIDENTS SHOULD BE PLACED IN A CASE-MIX CLASS BY THIS POINT.</u>

III. APPENDICES

APPENDIX A

HIERARCHICAL GROUP	ADL INDEX SCORE	CASE MIX CLASS	CLASS DESCRIPTION
I. HIGH INTENSITY REHABILITATION	15-18	01	HIGH INTENSITY REHABILITATION D
	12-14	02	HIGH INTENSITY REHABILITATION C
	8-11	03	HIGH INTENSITY REHABILITATION B
	4-7	04	HIGH INTENSITY REHABILITATION A
II. MEDIUM INTENSITY REHABILITATION	16-18	05	MEDIUM INTENSITY REHABILITATION C
	8-15	06	MEDIUM INTENSITY REHABILITATION B
	4-7	07	MEDIUM INTENSITY REHABILITATION A
III. LOW INTENSITY REHABILITATION	12-18	08	LOW INTENSITY REHABILITATION B
	4-11	09	LOW INTENSITY REHABILITATION A
IV. EXTENSIVE CARE	3 TREAT	10	EXTENSIVE SPECIAL CARE 3
	2 TREAT	11	EXTENSIVE SPECIAL CARE 2
	1 TREAT	12	EXTENSIVE SPECIAL CARE 1
V. SPECIAL CARE	17-18	13	SPECIAL SPECIAL CARE C
	14-16	14	SPECIAL SPECIAL CARE B
	7-13	15	SPECIAL SPECIAL CARE A
VI. CLINICALLY COMPLEX	17-18	16	CLINICALLY COMPLEX D
	11-16	17	CLINICALLY COMPLEX C
	6-10	18	CLINICALLY COMPLEX B
	4-5	19	CLINICALLY COMPLEX A
VII. IMPAIRED COGNITION	6-11	20	IMPAIRED COGNITION B
	4-5	21	IMPAIRED COGNITION A
VIII. CHALLENGING BEHAVIORS	6-11	22	CHALLENGING BEHAVIORS B
	4-5	23	CHALLENGING BEHAVIORS A
	N/A	24	ATYPICAL SEV. CHALLENGING BEHAVIORS
IX. REDUCED PHYSICAL FUNCTIONING	16-18	25	REDUCED PHYSICAL FUNCTIONING E
	11-15	26	REDUCED PHYSICAL FUNCTIONING D
	9-10	27	REDUCED PHYSICAL FUNCTIONING C
	6-8	28	REDUCED PHYSICAL FUNCTIONING B
	4-5	29	REDUCED PHYSICAL FUNCTIONING A